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Office Memorandum • UNITED STATES GOVERNMENT

TO : The Files - Contract RD-107, Task Order 12

DATE: 29 March 1960

FROM :

SUBJECT: (Trip Report - Miniature IF Amplifier)

RD-107, 12 MAR 60

1. On 18 March 1960 a visit was made to to monitor the progress made in developing miniature IF ceramic and crystal amplifiers. Persons present for discussions were:

- Project Engineer
 Project Engineer,
 - OC-E/R+D-EP

Chief Project Engineer, was not present for this meeting because of illness.

2. Two IF amplifiers are being developed under this program. One IF amplifier uses ceramic transformers as the bandpass determining element and the second IF amplifier uses a crystal filter as the bandpass determining element.

3. Ceramic Amplifier - This amplifier has been completely temperature tested over the extremes of plus and minus 40°C to ensure that the bandwidth and center frequencies remain within tolerances. will soon conclude testing of the double conversion amplifier so as to allow time for final packaging. The amplifier should be ready for delivery to the Agency in the late part of May 1960.

4. Crystal Filter - This crystal filter was received by around the latter part of February. is to construct 3 transistorized amplifier stages around the crystal filter, which should begin around the first of April 1960. The crystal filter has a size of 2 x 1-1/8 x 3/4 inches which is slightly larger than expected. There was an increase in size of approximately .35 cubic inches because of the difficulty in maintaining proper selectivity and bandpass rejection. Apparently, the problem was traced to the proximity of the input and output capacitances causing interreaction and thus loading the circuit. The crystal filter by itself is 1.69

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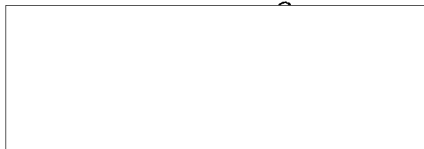
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cubic inches in volume and with the addition of three transistor amplifiers stage the volume may reach 2.5 cubic inches. Originally it was believed that the volume would be approximately 2 cubic inches. In the case of the ceramic IF amplifier the volume may be slightly less than 2 cubic inches.



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